



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

clo

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,606	03/21/2001	Hiroyuki Osakabe	4041J-000368	3028

27572 7590 03/17/2004

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER

PATEL, NIHIR B

ART UNIT PAPER NUMBER

3743

DATE MAILED: 03/17/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,606

Applicant(s)

OSAKABE, HIROYUKI

Examiner

Nihir Patel

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on February 9th, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 8-10 and 14-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7, 11-13, 22-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 7, 11-13 and 22-27 have been considered but are moot in view of the new ground(s) of rejection.

Election/Restrictions

2. Claims 4, 5, 6, 8-10 and 14-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ghoshal US Patent No. 6,474,074. Referring to claim 1, Ghoshal discloses an apparatus for dense chip packaging using heat pipe and thermoelectric coolers that comprises a refrigerant vessel storing liquid refrigerant therein 210 (see column 3 line 20-35) the refrigerant vessel having a boiling portion where the liquid refrigerant boils to produce refrigerant vapor (see column 3 lines 20-35), and defining therein a vapor outflow passage through which refrigerant vapor flows toward first and second outlet portions provided at opposite ends of the vapor outflow passage (see figures 2, 3, and 5); a first radiator disposed at a first end side of the refrigerant vessel to communicate with the first outlet portion of the vapor outflow passage (see figures 2 and 3); and a second radiator

Art Unit: 3743

disposed at a second end side of the refrigerant vessel, opposite to the first side, to communicate with the second outlet portion of the vapor outflow passage, wherein (see figures 2 and 3); each of the first and second radiators includes a heat exchange part having a vapor passage in which the refrigerant vapor from the vapor outflow passage flows to perform heat exchange with liquid coolant, and a tank defining a refrigerant chamber that communicates with the refrigerant vessel and stores therein the liquid refrigerant with a liquid surface (see figures 2 and 3); the vapor passage of the heat exchange part is provided above the liquid surface stored in the tank (see figures 2 and 3); and the vapor outflow passage is provided in the refrigerant vessel to extend in a direction crossing with a vertical direction. (see figures 2 and 3).

Referring to claim 2, Ghoshal discloses an apparatus wherein the heat exchange part further comprises a coolant passage in which the liquid coolant flows to perform the heat exchange with the refrigerant vapor, the coolant passage adjoining the vapor passage (see figures 2 and 3).

Referring to claim 26, Ghoshal discloses an apparatus wherein the heat exchange part further comprises a coolant passage in which liquid coolant flows to perform heat exchange with refrigerant vapor in the vapor passage; and the coolant passage is provided to be separated from outside air outside the heat exchange unit (see figures 2 and 3).

Referring to claim 27, Ghoshal discloses an apparatus wherein the vapor outflow passage is provided to extend approximately horizontally (see figures 2 and 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghoshal US Patent No. 6,474,074 in view of Nagakabe Patent No. JP02000022377A. Referring to claim 11, Ghoshal discloses the applicant's invention as claimed with the exception of providing a boiling cooler that is used for a vehicle.

Nagakabe discloses a boiling cooler that does provide a boiling cooler that is used for a vehicle. Therefore it would be obvious to modify Ghoshal's invention by providing a boiling cooler that is used for a vehicle to increase the cooling process.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghoshal US Patent No. 6,474,074 in view of Inoue U.S. Patent No. 6,016,966.

Ghoshal discloses the applicant's invention as claimed with the exception of providing a pump to circulate the liquid coolant in the coolant passage.

Inoue discloses an air conditioning system for automotive vehicles that does provide a pump to circulate the liquid coolant in the coolant passage. Therefore it would be obvious to modify Ghoshal's invention by providing a pump to circulate the liquid coolant in the coolant passage in order to circulate the coolant quicker.

Claims 22 through 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghoshal US Patent No. 6,474,074 in view of Iritani et al. U.S. Patent No. 5,983,652.

Ghoshal discloses the applicant's invention as claimed with the exception of providing a motor that is connected to the boiling cooler in series for supplying the liquid coolant from the radiator to the boiling cooler.

Iritani discloses an automotive air conditioner having condenser and evaporator provided within air duct that does provide a motor that is connected to the boiling cooler in series for supplying the liquid coolant from the radiator to the boiling cooler. Therefore it would be obvious to modify Ghoshal's invention by providing a motor that is connected to the boiling cooler in series for supplying the liquid coolant from the radiator to the boiling cooler so that the coolant can be delivered faster.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghoshal US Patent No. 6,474,074 in view of Watt 4,127,105. Ghoshal discloses the applicant's invention as claimed with the exception of providing heat exchange part that is disposed above the lower tank.

Watt discloses an isothermal process solar collector panel that does provide heat exchange part that is disposed above the lower tank (see figures 1 and 2). Therefore it would be obvious to modify Ghoshal's invention by providing heat exchange part that is disposed above the lower tank in order to improve the heat transfer process.

Examiner's Comments

In order to overcome the current 102 and 103 rejections the applicant must provide the examiner English translations of the foreign applications as stated on the bib data sheet.

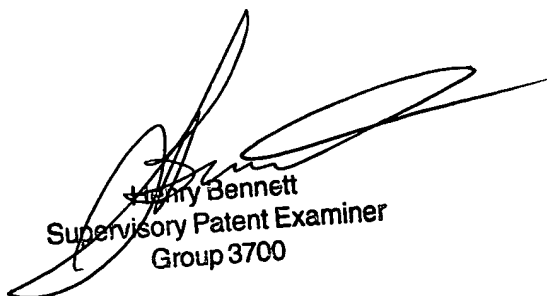
Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
March 9th, 2004



Henry Bennett
Supervisory Patent Examiner
Group 3700